

Bell Atlantic 1300 I Street N.W. Suite 400 West Washington, DC 20005 202 336-7824 Fax 202 336-7922 E-Mail: Dolores.A.May@BellAtlantic.com **Dee May** Director Federal Regulatory Affairs



December 14, 1998

Ex Parte

Ms. Magalie Roman Salas Secretary Federal Communications Commission 445 12th Street, SW Washington, DC 20554 RECEIVED

DEC 1 4 1998

PEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: CC Docket 98-147: In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability

Please find attached a written ex parte addressed to Mr. M. Pryor of the Common Carrier Bureau. This ex parte should be entered into the record of the aforementioned proceeding.

Please feel free to contact me at 202-336-7824 if you have any questions.

Sincerely,

Attachment

CC:

J. Askin

S. Newman

M. Pryor

D. Shiman

D. Sicker

No. of Copies rec'd O+)
List A B C D E

Bell Atlantic 1300 I Street N.W. Suite 400 West Washington, DC 20005 202 336-7824 Fax 202 336-7922 E-Mail: Dolores.A.May@BellAtlantic.com

Dee May Director Federal Regulatory Affairs



December 14, 1998

Ex Parte

Mr. Michael Pryor
Division Chief-Common Carrier Bureau
Federal Communications Commission
1919 M Street, NW 5th Floor
Washington, DC 20554



Re: CC Docket 98-147: In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability

At our meeting on the above topic held on November 24, you invited Bell Atlantic to submit a paper that outlines the issues surrounding spectrum unbundling. These are issues that Bell Atlantic feels warrant a commission decision in the above proceeding that does not mandate spectrum unbundling.

Please feel free to contact me at 202-336-7824 if you have any questions or would like to discuss the paper further.

Sincerely,

Attachment /

CC: J. Askin

S. Newman

D. Shiman

D. Sicker

White Paper on Spectrum Unbundling

Executive Summary

Several parties have proposed that the Commission require spectrum unbundling of loops. These parties want to provide xDSL services to a customer over the loop currently used by another carrier to provide voice services to that same customer. This proposal is unsound on both legal and policy grounds.

The Act's unbundling provisions require incumbent carriers to unbundle loop facilities in their entirety. They do not require, or even permit the Commission to require, incumbent carriers to unbundle separate frequency ranges on individual loops. In fact, the Commission has already rejected requests by other carriers for access to loops on an unbundled basis just to provide data services or long distance services while another carrier continues to provide other telecommunications services to the customer.

Unbundling spectrum on loops also raises serious policy concerns. It would place both incumbent carriers and new entrants that have invested in their own loop facilities at a competitive disadvantage because they would have to offer a variety of services to recover the full cost of the loop. Allowing new entrants to use another carrier's loop facilities to provide only xDSL services and avoid the full cost of the loop would give these new entrants an artificial advantage over the competitors that have invested in loop facilities.

In addition, new entrants that choose to provide only xDSL service will have no incentive to invest in their own facilities to provide competing local

exchange services. Nor will they have any incentive to provide competing local exchange services to residential customers.

Moreover, any attempt by the Commission to set a spectrum dividing line on loops will arbitrarily freeze technological development. Carriers are already using higher frequencies on the loop to provide services to their customers and are developing future services and technologies that use the full range of spectrum on these loops. These developments have occurred because there are no arbitrary restrictions on their ability to do so. But giving carriers the right to demand access to frequencies on the loop above the Commission's dividing line will inevitably interrupt current services and freeze the development of future services and technologies. And any splitting off of spectrum based on today's technical parameters will shortly be obsolete.

Finally, spectrum unbundling would require extensive and time consuming changes to Bell Atlantic's network and supporting systems. These changes would do nothing to stimulate local exchange competition.

1. The Act Neither Requires Nor Authorizes Spectrum Unbundling of Loops.

The Act defines a "network element" as "a facility or equipment used in the provision of a telecommunications service" together with the "features, functions and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service." 47 U.S.C. §

153(29). This definition plainly limits "network elements" to the **physical** facilities of the local exchange network.

In implementing the Act's unbundling provisions, the Commission "adopt[ed] the concept of unbundled elements as physical facilities of the network, together with the features, functions, and capabilities associated with those facilities." Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 11 FCC Rcd 15499 at ¶258 (1996) ("Local Competition Order"). The Commission concluded "that the local loop element should be defined as a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises." Local Competition Order, ¶ 380.

Consistent with its interpretation of the Act, the Commission found that "[f]or some elements, **especially the loop**, the requesting carrier will purchase exclusive access to the element for a specific period, such as on a monthly basis." *Local Competition Order*, ¶ 258 (emphasis supplied). The Commission specifically rejected the notion that carriers could purchase unbundled access to part of a loop to provide only some of the services requested by the customer.

[C]arriers purchase rights to exclusive use of unbundled loop elements, and thus, . . . such carriers, as a practical matter, will have to provide whatever services are requested by the customers to whom those loops are dedicated. This means, for example, that, if there is a single loop dedicated to the premises of a particular customer and that customer requests both local and long distance service, then any interexchange carrier purchasing access to that customer's loop will have to offer both local and long distance services. That is, interexchange carriers purchasing unbundled loops will most often not be able to provide solely interexchange services over those loops. *Local Competition Order*, ¶ 357.

The Commission also rejected proposals for sharing a loop, such as where one carrier provides a voice service while a second carrier provides a digital service.

Some parties advocate defining a loop element as merely a functional piece of a shared facility, similar to capacity purchased on a shared transport trunk. . . . While such a definition, based on the types of traffic provided over a facility, may allow for the separation of costs for a facility dedicated to one end user, we conclude that such treatment is inappropriate. Giving competing providers exclusive control over network facilities dedicated to particular end users provides such carriers the maximum flexibility to offer new services to such end users. In contrast, a definition of a loop element that allows simultaneous access to the loop facility would preclude the provision of certain services in favor of others. For example, carriers wishing to provide solely voice-grade service over a loop would preclude another carrier's provision of a digital service, such as ISDN or ADSL, over that same loop. We note that these two types of services could be provided by different carriers over, for example, separate two-wire loop elements to the same end user. Local Competition Order, ¶ 385.

Hence, the Commission has already rejected arguments that loop spectrum be defined as a separate network element.

Even if loop spectrum could be construed to fall within the statutory definition of network element, which it does not, the Act's unbundling provisions do not apply to spectrum on a loop. Congress did not require that the Commission give carriers access to every possible network element. Instead, Congress set strict tests for determining whether the Commission could require unbundling. Accordingly, section 251(d)(2)(b) requires unbundling only where "the failure to provide access to such network elements would <u>impair</u> the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer," or in the case of proprietary network elements, requires access

only where such access "is necessary." The proponents of spectrum unbundling cannot meet either of these tests.

The Commission has interpreted "necessary" to mean that "an element is a prerequisite for competition." *Local Competition Order*, ¶ 282. Spectrum on a loop does not meet this test. Any service that a carrier could provide using unbundled spectrum on a loop could also be provided using the entire loop. The availability of the entire loop on an unbundled basis ensures that carriers can compete.

The Commission has interpreted "impair" to mean that "the quality of the service the entrant can offer, absent access to the requested element, declines and/or the cost of providing the service rises." *Local Competition Order*, ¶ 285. Again, spectrum on a loop does not meet either of these tests.

First, the quality of any service provided over an entire loop is at least as good as the quality of that same service provided over unbundled spectrum on a loop. Accordingly, the quality of an entrant's xDSL service would not decline if it were required to offer it through access to the entire loop, rather than just some portion of the spectrum on the loop. In fact, the opposite may occur where the carrier doesn't have access to the entire loop.

Second, there is no evidence that the cost of providing unbundled access to some of the spectrum on a loop is less than the cost of providing access to an entire loop, including all of the spectrum. For example, providing access to unbundled spectrum will require the new entrant to bear the cost of installing splitters, filters and other equipment on the loop in addition to some portion of

the loop facilities themselves. Spectrum unbundling also requires extensive and costly changes to Bell Atlantic's current ordering, provisioning, network inventory and maintenance systems. In addition, as AT&T explained, having two carriers provide service over different portions of the spectrum of a loop will require extensive coordination between them that will necessarily increase the cost of such things as billing and maintaining the loop.

"If, for example, an internet service provider could obtain the data functionality of a loop owned by another LEC without its authorization, significant billing and customer service difficulties may arise. When service complications arise, the customer is likely to call the LEC despite the fact that (i) the problem may have been caused by the internet service provider or (ii) the LEC might lack the ability to address the problem because the internet service provider controls the implicated facilities." Comments of AT&T, Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, at 64 (filed Sept. 25, 1998).

This is consistent with Bell Atlantic's own experience of receiving maintenance requests on voice service that were, in many cases, traced to problems with the customer's data equipment. There is thus no evidence that providing access to unbundled spectrum on a loop will be less costly than providing access to the entire loop.

In fact, a carrier that purchases the entire loop to provide all the services that are capable of being provided over that loop would reduce the cost to be recovered from any single service offered over the loop. And purchasing the entire loop places competitors in the same position as the incumbent to recover the full cost of the loop through a variety of services.

Some carriers have argued that when an incumbent carrier offers both voice and xDSL service over the same loop, it has a non-discrimination

obligation to allow other carriers to offer xDSL service over the loop while the incumbent continues to provide voice service. The problem with this argument is that it leads to precisely the opposite of the Commission's own conclusion. The Commission already decided that carriers should have exclusive control over the loop to give them the maximum flexibility to offer new services, rather than allowing two or more carriers to share a loop. But under the reasoning of these parties, an incumbent carrier that offers a new service, such as xDSL service, must give up exclusive control over the loop and allow other carriers to share it. This argument thus turns the Commission's ruling on its head.

In fact, it would be discriminatory and violate the Commission's own parity principles to give competitors access to just some portion of the spectrum on a loop. Incumbent carriers have to recover the full cost of the loop from the various services they offer. Principles of parity and non-discrimination require that competitors do the same – not receive an artificial advantage by getting a "free" ride on the loop and leaving the incumbent to provide only the unremunerative services. Accordingly, the incumbent's non-discrimination obligation is satisfied by giving competing carriers access to the same types of loops it uses to provide voice, xDSL and other services on an integrated basis.

Based on the statute, the Commission may not require unbundling of spectrum on a loop. Loop spectrum is not a network element under the statute because it is not a physical network facility. And even if it did fall within the definition of network element, the Act's unbundling provisions would not apply.

Loop spectrum is not necessary for competition, nor does it meet the impairment standard.

2. There Are Important Public Policy Reasons For Not Unbundling Loop Spectrum

Even if the Commission had authority to define spectrum as a network element, which it does not, there are important policy reasons why it should not do so.

Spectrum unbundling will discourage investment in competing local exchange facilities. The premise of the spectrum unbundling proposal appears to be that carriers would obtain access to loop spectrum at little or no charge in order to provide xDSL service. As explained above, this premise is not necessarily a sound one. The additional cost of providing access to spectrum on an unbundled basis may make it no cheaper than providing access to an entire loop.

But even if the premise were correct, providing carriers with unbundled spectrum would undercut the Act's goal of stimulating competition in all telecommunications markets. If carriers can obtain access to the unbundled spectrum at little or no charge, they will have absolutely no incentive to build their own competing local facilities. They will simply continue to take a "free ride" on the incumbent's investment as long as they are allowed to do so. As Professors Areeda and Hovenkamp have explained, when the government forces a company to "provide [a] facility and regulat[es] the price to competitive levels, then the [prospective entrant's] incentive to build an alternative facility is

destroyed altogether." Philip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶ 771b, at 175 (revised ed. 1996). Professor Kahn has reached the same conclusion: "What is the point of a CLEC constructing its own facilities if it can lease or purchase them from the incumbent companies at the theoretically estimated *minimum cost* (let alone below that cost, for the reasons I have already adduced) that would be incurred by a new entrant building from the ground up?" Alfred E. Kahn, *Letting Go: Deregulating The Process of Deregulation* (1998) at 101.

Moreover, with access to the loop spectrum they want to provide lucrative xDSL services, carriers will have no incentive to offer traditional voice local exchange services to residential customers, such as flat-rated local calling. They can simply allow the incumbent carrier to continue providing those services.

By contrast, a carrier that purchases an entire loop will have strong incentives to use that loop as fully as possible. In the residential market, that means the carrier would have strong incentives to offer local exchange services in addition to xDSL, toll and long distance services.

Spectrum unbundling will freeze technological development. No industry standards body has set a universal dividing line for spectrum on a loop, and with good reason. Any spectrum dividing line would be arbitrary and would artificially stifle technological development. Today, the several varieties of xDSL that are in use, or are in the process of being standardized, use different portions of the spectrum of a loop. The spectrum dividing line is set for the various technologies based on engineering compromises among such goals as

achieving higher speeds and/or greater range (which provide incentives for lowering the line) and reducing the cost of splitters and filters, and/or providing greater immunity to interference from spurious signals produced by customer premises equipment and network switching equipment (which provide incentives for raising the line). The notion that a spectrum dividing line can be selected and cast in stone today, in the infancy of xDSL technology, flies in the face of experience and logic.

Setting an arbitrary spectrum dividing line also ignores the fact that xDSL services are not the only services that might use the higher frequencies on a loop. In fact, carriers are offering services today that operate above the spectrum typically associated with voice communications. While xDSL service is one recent example of a service using higher frequencies on a loop, it is by no means the only such service. Carriers today offer many services that utilize higher frequencies on a loop. The following are just a few illustrations of such services:

<u>Data-Over-Voice</u>: Since the 1980s, Bell Atlantic has offered services (such as CO-LAN service associated with Centrex) that transmit data over the customer's voice loops. This service uses spectrum in the 80-114 kHz range. It is currently in use on more than 15,000 customer lines.

Integrated Services Digital Network: Bell Atlantic currently offers customers the ability to establish separate channels for data and voice on a single line. ISDN service can be used by residential and business customers in lieu of POTS service. This service uses spectrum in the 40 kHz range. It is currently in use on more than 424,000 customer lines.

<u>Electronic Business Sets</u>: Bell Atlantic currently offers services that enable customers to use electronic premises equipment to activate special features, such as conferencing and messaging. This service uses spectrum in the 8 kHz range. It is currently in use on more than 100,000 customer lines.

Giving carriers access to unbundled spectrum on loops would inevitably cause interruptions to the services on the line that already use that portion of the spectrum. In fact, if a competing carrier were given access to unbundled spectrum on a line with ISDN service, the customer would no longer be able to make or receive any voice or data calls.

Carriers are also using the upper frequency ranges on the loop to create additional voice channels. For example, Bell Atlantic currently uses a separate channel on loops to derive additional capacity to provide voice services to the customer, or to another nearby customer, rather than building more loops. This capability, called Digital Added Main Lines, uses spectrum in the 40 kHz range. It is currently in use on more than 62,000 loops. Requiring an incumbent carrier to "unbundle" the higher frequency spectrum on its loops for use by another carrier would inhibit the incumbent carrier's ability to make efficient use of its loops in this manner.

Moreover, setting an arbitrary spectrum "dividing line" will stifle technological development. While the current version of some xDSL technology uses only a portion of the spectrum on a loop, future versions will likely use more or different spectrum on the loop. In fact, voice services in the future will likely be provided through one of several data channels on a loop. And as the Commission itself has recognized, "[g]iving competing providers exclusive control over network facilities dedicated to particular end users provides such carriers the maximum flexibility to offer new services to such end users." *Local Competition Order*, ¶ 385. But these developments of new technology and

services will stall if carriers are at risk that another carrier can obtain access to a portion of the spectrum on any loop they are using to serve a customer.

Furthermore, some carriers have suggested that there is some "data functionality of a loop" that can be unbundled. There is no such thing. Loops cannot be unbundled on a service basis, separating voice from data. A carrier with access to unbundled spectrum for xDSL service could also use that access to provide voice services in the unbundled higher frequence spectrum. Nothing in the Commission's unbundling rules limits the types of services that a carrier can provide using network elements.

In fact, the carrier that obtains access to the upper frequencies on the loop will have the flexibility to provide a full range of voice (IP telephony), high speed data and video services, while the carrier stuck with the lower frequencies will be constrained to providing traditional voice and low speed data services. As a result, a carrier with the "voice" spectrum of the loop could find itself providing few or no voice services to the customer once another carrier begins using the unbundled "data" spectrum to provide both xDSL and profitable voice services.

Spectrum unbundling would require significant changes to many operating support systems. Bell Atlantic's current network and supporting systems are designed to unbundle loops in their entirety to a single carrier. In order to unbundle spectrum on a loop to more than one carrier, Bell Atlantic would have to make significant modifications to its network and nearly all of its supporting systems. These modifications would not be necessary if xDSL

service were provided on an integrated basis with voice service by a single carrier.

Bell Atlantic currently tracks and inventories each loop as a single facility with a single owner or user. Virtually all of Bell Atlantic's support systems – ordering, provisioning, maintenance and billing – are built on this loop inventory structure.

If spectrum unbundling were required, Bell Atlantic's loop inventory system would have to be completely reconstructed. Rather than tracking each loop as a single facility, it would have to track the spectrum on each loop separately. But there are not just two portions of spectrum on each loop - data and voice. There are potentially an infinite number of spectrum ranges on a loop, each of which might theoretically be unbundled to a different carrier. For example, one carrier might use a frequency range on a loop to provide voice service, another carrier might use a lower range to offer an alarm monitoring or meter reading service, a third carrier might use a higher range to offer high speed Internet access, while yet a fourth carrier might use still higher frequencies to offer video services. And the portions of spectrum used for these services might vary from loop to loop. Obviously, transforming a "one loop, one carrier" inventory system to a system that can track multiple users, or worse yet, dynamic frequency ranges used by multiple carriers on a single loop is an enormous undertaking.

Even if a dynamic loop spectrum inventory tracking system could be developed, it would then require changes to virtually all of the support systems

for ordering, provisioning, maintenance and billing. For example, ordering systems that today enable a single carrier to purchase an entire loop would have to be changed to enable any number of carriers to purchase virtually any portion of the spectrum on a single loop. And downstream provisioning systems would need to be modified to direct installation craftspersons to install, replace or modify electronic equipment on a loop to accommodate the frequency range ordered by the carrier and cross connect that equipment to the appropriate carrier.

Obviously, these changes cannot occur overnight. Bell Atlantic estimates that these changes would take several years. In the end, these efforts would do nothing to create more local exchange competition because proponents of spectrum unbundling have been clear that they do not intend to use unbundled spectrum to provide traditional local exchange service, particularly in the residential mass market.